

## **PATENT CLAIMS**

1. Device for wideband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, in particular via non-contacting rotary joints, said first unit comprising:
  - 5       - a data source for generating a serial data stream;
  - a transmitter for generating electrical signals from said serial data stream from said data source;
  - a transmitter conductor array for conducting said electrical signals generated by said transmitter;and said second unit comprising:
  - 10       - a receiving antenna for tapping electrical signals in the near field of said transmitter conductor array;
  - a receiver for receiving the signals tapped by said receiving antenna;
  - a data sink for subsequent processing of the signals received by said receiver;15       characterized in that at least one filter is provided, optionally assigned to said transmitter or said receiver, for adaptation to transmission characteristics of a data transmission path between said transmitter and said receiver.
- 20   2. Device according to Claim 1, characterized in that said filter can be dynamically adjusted.
3. Device according to Claim 1, characterized in that a micro controller is provided for controlling and diagnosing the device.
- 25   4. Device according to Claim 1, characterized in that the device is self-learning and dynamically adapts itself to respective conditions of operation.